

***Chalalabelus* finds from the Middle Volgian of Moscow city and the nature of enigmatic Diplobelida**

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Diplobelida is a coleoid order, combining rare isolated finds of peculiar Mesozoic coleoids, representing such genera as *Diplobelus*, *Vectibelus*, *Chalalabelus* and others. This group was erected by Naef (1922) as a family, and modern considerations on this taxon are based mostly on a detailed review made by Jeletzky (1981). The definitive characteristics are narrow proostracum and dorsal saddle at the suture line.

Our investigation is based on numerous finds of well-preserved *Chalalabelus* rostra (>40 specimens attributing to 2 species to be described), coming from Middle Volgian (virgatus-nikitini boundary interval) of Kuntsevo locality in Moscow, and numerous (>50 specimens) *Pavloviteuthis*-like (undescribed genus and species) rostra from the same locality. Phragmocone walls have not preserved in any specimen. We've also reviewed materials held in funds and described by previous Russian researchers (V.N.Shimansky, G.K.Kabanov, L.A.Doguzhaeva). Careful morphological study and systematic measurements of «diplobelid» phragmocones, both from collections and publications, has shown the distinct heterogeneity of the order. Despite for many Diplobelida finds described in literature some important features remain uncertain, even now all Diplobelida can be divided in two major groups:

1. Ventrally incurved phragmocones with wide angle (30-56°), narrow proostracum – 12-21% of camera width, suture line usually bearing chevron-like saddle, rostrum reduced or with rounded apex (genera *Chalalabelus*, *Vectibelus*, *Conoteuthis*). Stratigraphically these genera are like to form a phyletic line with a trend to gradual rostrum reduction and development of a chevron-like saddle.

2. Straight phragmocones with moderate apical angle (18-32°) and proostracum width about 28-33% of camera width, suture usually with rounded dorsal saddle; rostrum short, belemnite-like (genera *Diplobelus*, *Quiricobelus*, *Pavloviteuthis*, *Tauriconites* and possibly some more). There are no clear apomorphies and no obvious stratigraphic trends for this group, so this group needs to be restudied.

Next step of investigation was comparative microstructural study of rostra for both groups. *Chalalabelus* has shown that its rostra consist of pure aragonite and have specific microstructure, closely resembling such of *Kostromateuthis* and spirulids – from one side, and of Triassic *Belemnococeras* – from the second side. Surface texture of *Chalalabelus* rostra are identical to Tertiary spirulid rostra. All these genera are interpreted by us as a Mesozoic spirulid branch.

Pavloviteuthis rostra, both from our collections (Lower Jurassic) and Shimanky ones (Lower Cretaceous) consist of aragonite, and have typical «belemnite» microstructure. Their rostrum surfaces are smooth or slightly wrinkled, and there are some details approaching these rostra to Belemniteuthidae.

Thus, Diplobelida as it was recognized by Jeletzky, is an artificial group, fancifully combining Mesozoic Spirulidae and belemnite-like coleoids.

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